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Tables of RADECS 2022 Papers

As usual, the Conference authors had a choice to submit their papers to the IEEE Conference Record of RADECS 2022 and/or to the IEEE Transactions on Nuclear Science Journal, each path of edition comprising its own Reviewing Committee.

As a result, a coherent Proceeding of the 2022 RADECS Conference results in the merging of two lists of papers which result from these paths.

79 papers resulted in Conference Record papers and 70 papers in IEEE Transactions on Nuclear Science papers. Both can be accessed in IEEEXplore, in the two different Sections.

Therefore, in the following we successively present two lists of papers ordered in two Sections, subsequently ordered by their place in the Conference Sessions.

Section I – Conference Papers

These papers were submitted to the Conference Review Committee and appear in the RADECS 2022 Conference Papers in IEEE Xplore (Conference Section, RADECS 2022).

Their DOI appear in the bottom of their first page, first column.

Session A: Single Event Effects: Mechanisms & Modeling

Session B: Single Event Effects: Devices & ICs

Session E: Radiation Environments

Session F: Dosimetry and Facilities

Session G: Radiation Hardening Techniques

Session H: Photonics, Optoelectronics and Sensors

Session I: Radiation Hardness Assurance

Session J: Radiation Effects in Complex Devices and Systems

Data Workshop Session

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Section II – Papers published in IEEE Transactions on Nuclear Science

(Volume: 70, Issue: 8 , Aug. 2023, part 1).

The August 2023 special issue of the IEEE Transactions on Nuclear Science contains 70 articles based on presentations made at the Conference and independently submitted to this Journal. They were reviewed independently of the Conference.

This Special issue can be reached at:
https://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=10221199

For the completeness of the RADECS 2022 Conference Proceedings, the Conference Editors present in this Section II the list of these Journal papers ordered by their original sessions. The DOIs give easy access to this content which is reachable in the "Journal part" of IEEE Xplore.

The content comprises the papers as follows:

Session A: Single Event Effects: Mechanisms & Modeling

Voltage Dependence of Single-Event Cross Sections of FinFET SRAMs for Low LET Condition

K. Takeuchi, K. Sakamoto, K. Yukumatsu, T. Kato, H. Matsuyama, A. Takeyama, T. Makino, T. Ohshima, H. Shindo

DOI: **10.1109/TNS.2023.3295340, p. 1755**

Proton Irradiation-Induced Reliability Degradation of SiC Power MOSFET

K. Niskanen, H. Kettunen, D. Söderström, M. Rossi, J. Jaatinen, A. Javanainen

DOI: **10.1109/TNS.2023.3242829, p. 1838**

An Analytical Model to Evaluate Well-Potential Modulation and Bipolar Amplification Effects

L. Ding, T. Wang, F. Zhang, J. Xu, L. Wang, H. Huang, C. Liu, W. Chen

DOI: **10.1109/TNS.2023.3266005, p. 1724**

Session B: Single Event Effects: Devices & ICs

The Propagation of Extended SET Tails in RF Amplifiers using 45-nm CMOS on PDSOI

J. W. Teng, B. L. Ringel, Z. R. Brumbach, J. P. Heimerl, Y. A. Mensah, G. N. Tzintzarov, A. Ildefonso, A. Khachatrian, D. McMorrow, P. Oldiges, J. D. Cressler

DOI: **10.1109/TNS.2022.3224356, p. 1829**

Single-Event Upsets for Single-Port and Two-Port SRAM Cells at the 5-nm FinFET Technology

N. J. Pieper, Y. Xiong, J. Pasternak, N. A. Dodds, D. R. Ball, B. L. Bhuva

DOI: **10.1109/TNS.2023.3240979, p. 1673**

Evaluation of the Single-Event-Upset Vulnerability for Low-Energy Protons at the 7- and 5-nm Bulk FinFET Nodes

Y. Xiong, N. J. Pieper, M. W. McCurdy, D. R. Ball, B. D. Sierwaski, B. L. Bhuva

DOI: **10.1109/TNS.2023.3246085, p. 1687**

Session E: Radiation Environments

Session G: Radiation Hardening Techniques

SEU Performance of RHBD Flip-Flops using Guard Gates at 22-nm FDSOI Technology Node

Z. Li, C. Elash, J. Xing, C. Jin, L. Chen, S-J. Wen, R. Fung, S. Shi, Z. Wu Yang; B. L. Bhuva

DOI: **10.1109/TNS.2023.3284758, p. 1760**

Efficacy of Spatial and Temporal RHBD Techniques at Advanced Bulk FinFET Technology Nodes

Y. Xiong, N. J. Pieper, B. Narasimham, D. R. Ball, B. L. Bhuva

DOI: **10.1109/TNS.2023.3246067, p. 1814**

Aspect Ratio Modeling of Radiation-Hardened 8-Shape Enclosed Layout Transistor

Y. Wu, P. Luo, B. Zhang

DOI: **10.1109/TNS.2023.3274389, p. 2076**

Session H: Photonics, Optoelectronics and Sensors

Radiation Effects on Si-Photonics-Integrated Passive Devices: Postirradiation Measurements

I. Reghioua, S. Girard, A. Morana, D. Lambert, J. Faugier-Tovar, P. Grosse, S. Garcia, M. Kazar-Mendes, M. Ferrari, P. Paillet, B. Szelag

DOI: **10.1109/TNS.2023.3296985, p. 1973**

Radiation Induced Attenuation and Luminescence Study in Radioluminescent Optical Fibers

N. Kerboub, D. Di Francesca, A. Morana, H. El Hamzaoui, Y. Ouerdane, G. Bouwmans, A. Cassez, A. Boukenter, B. Capoen, E. Marin, M. Bouazaoui, D. Ricci, R. Garcia Alia, J. Mekki, O. Gilard, N. Balcon, S. Girard

DOI: **10.1109/TNS.2023.3246239, p. 1917**

Combined Photobleaching and Temperature Effects on 1550 nm Radiation-Induced Attenuation of Germanosilicate Optical Fiber

M. Roche, A. Morana, N. Balcon, M. Aubry, V. Carreau, S. Mariojouls, A. Boukenter, C. Campanella, Y. Ouerdane, E. Marin, C. Durnez, M. Rousselet, S. Girard

DOI: **10.1109/TNS.2023.3263578, p. 1951**

Session I: Radiation Hardness Assurance

Parametric Evaluation of the See Rate on the SEU and SEL Monitors Aboard the Alphasat using the IRPP Model

M. Pinto, C. Poivey, V. Gupta, A. Pesce, M. Poizat, M. Vuolo, H. Evans

DOI: **10.1109/TNS.2023.3239536, p. 1821**

A Terrestrial SER Estimation Methodology Based on Simulation Coupled With One-Time Neutron Irradiation Testing

S-I. Abe, M. Hashimoto, W. Liao, T. Kato, H. Asai, K. Shimbo, H. Matsuyama, T. Sato, K. Kobayashi, Y. Watanabe

DOI: **10.1109/TNS.2023.3280190, p. 1652**

Exploring Radiation-Induced Vulnerabilities in RFICs through Traditional RF Metrics

A. Scialdone, R. Ferraro, L. Dilillo, F. Saigne, J. Boch, A. Masi, S. Danzeca

DOI: **10.1109/TNS.2023.3270206, p. 2068**

A Method of Predicting Muon-Induced SEUs using Proton Tests and Monte Carlo Simulation

Y. Deng, Y. Watanabe

DOI: **10.1109/TNS.2023.3267767, p. 1775**

Incorporating Component-Level Testing into Bayesian Degradation Distributions to Estimate a Voltage Regulator's Radiation Failure Probabilities

R. H. Nederlander, A. F. Witulski, R. A. Reed, G. Karsai, R. L. Ladbury, E. X. Zhang, R. D. Schrimpf, K. L. Ryder, M. J. Campola, N. Mahadevan, R. A. Austin, B. D. Sierawski

DOI: **10.1109/TNS.2023.3284859, p. 2051**

Session J: Radiation Effects in Complex Devices and Systems

Evaluating Reduced Resolution Redundancy for Radiation Hardening in FPGA Designs

L. A. García-Astudillo, A. Lindoso, L. Entrena, H. Martín, M. García-Valderas, P. Martín-Holgado, Y. Morilla

DOI: **10.1109/TNS.2023.3268825, p. 2060**